

ABSTRACT OF THE DISCLOSURE

System speakers are switched to function as sound input transducers to improve recognizer performance and to support recognizer features. A crossbar switch is selectively activated, either manually or under software control, to allow system loudspeakers to function as sound input transducers that supplement the recognition system microphone or microphone array. Using loudspeakers as "microphones" improves speech recognition in noisy environments, thus attaining better recognition performance with little added system cost. The loudspeakers, positioned in physically separate locations also provide spatial information that can be used to determine the location of the person speaking and thereby offer different functionality for different persons. Acoustic models are selected based on environmental and vehicle operating conditions and may be adapted dynamically using ambient information obtained using the loudspeakers as sound input transducers.